

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listing, of claims in the application.

Listing of Claims:

1 (Currently amended). A pattern formation substrate on which a predetermined pattern is formed by ejecting a droplet to a targeted surface, said pattern formation substrate being characterized by comprising:

~~a first region where a contact angle at which the droplet contacts the targeted surface is a first contact angle, said first region being formed on the targeted surface; and~~
a second region on the targeted surface, the second region being adjacent to the first region;

~~the first region having a hydrophilicity that is less than that of the second region;~~

~~the second region having at least two different widths~~

~~one or more second regions where the contact angle of the droplet is a second contact angle smaller than the first contact angle, said second region being formed on the targeted surface so as to be positioned adjacent to the first region, wherein~~

~~a surface of the second region is treated so that the droplet moves in a predetermined direction when the droplet is landed.~~

2 (Currently amended). The pattern formation substrate as set forth in claim 1, wherein:

a first line width L_1 and a second line width L_2 are so adjusted as to satisfy an equation (1) below,

$$L_1 > D / \{1 + 2 (\cos\theta_2 - \cos\theta_1)\}$$

and

$$L_2 < D / \{1 + 2 (\cos\theta_2 - \cos\theta_1)\} \dots \dots \dots (1), L_2 > D / \{1 + 2 (\cos\theta_2 - \cos\theta_1)\} \dots \dots \dots (1),$$

where:

~~the first line width L_1 is a width on a side, in the second region, toward which the droplet moves upon landing,~~

~~the second line width L_2 is a width on a side, in the second region, opposite to the side toward which the droplet moves,~~

~~θ_1 is the a first contact angle of when the droplet in-contacts the first region,~~

~~θ_2 is the a second contact angle of when the droplet in-contacts the second region,~~

and

D is a diameter of the droplet.

3 (Currently amended). The pattern formation substrate as set forth in claim 1 10, wherein:

each of the contact angles is so adjusted as to satisfy an equation (2) below,

$$L \times \{1 + 2 (\cos\theta_3 - \cos\theta_1)\} < D < L \times \{1 + 2(\cos\theta_2 - \cos\theta_1)\} \dots\dots\dots (2),$$

where:

~~θ_1 is the a first contact angle of when the droplet contacts the first region-with respect to the droplet,~~

~~θ_2 is the a second contact angle of when the droplet contacts the second region-with respect to one side of the droplet landed,~~

~~θ_3 is a third contact angle of when the droplet contacts the second region-with respect to another side of the droplet,~~

~~a line width-L is a width of the second region, and~~

~~D is a diameter of the droplet; and~~

~~a position of the droplet being landed is targeted so as to overlap the first region and two of the second regions.~~

4 (Currently amended). A method for forming a pattern, ~~characterized by the method~~ comprising the steps of:

~~forming a predetermined~~ preparing a pattern formation substrate by ejecting a droplet to the pattern formation substrate as set forth in any one of claims 1 through 3 and 2; and

ejecting a droplet to a position overlapping the two different widths in the second region.

5 (Original). The method as set forth in claim 4, wherein a continuous pattern is formed by connecting a plurality of droplets adhering to a targeted surface in a scattering-manner.

6 (Original). The method as set forth in claim 4, wherein an inkjet head is used for ejecting the droplet.

7 (Original). The method as set forth in claim 4, wherein
the first and the second regions are formed substantially in a flat shape.

8 (Original). The method as set forth in claim 4, wherein the droplet contains an electrically conductive particle.

9 (New). The method as set forth in claim 4, further comprising forming a wettability-modifiable layer on the substrate and irradiating the layer to form said first and second regions, wherein portions of the wettability-modifiable layer are not removed.

10 (New). A pattern formation substrate on which a predetermined pattern is formed by ejecting a droplet to a target surface, said pattern formation substrate comprising:
a first region on the target surface; and
a second region on the target surface and adjacent to the first region;
the second region having at least a first sub-region and a second sub-region, and
the first region having a hydrophilicity that is less than that of the second sub-region,
and the second sub-region having a hydrophilicity that is less than that of the first sub-region.

11 (New). A method for forming a pattern, the method comprising the steps of:

preparing a pattern formation substrate as set forth in any one of claims 3 and 10;
and
ejecting a droplet to a position overlapping the first sub-region and the second sub-region.